Security and Fire Alarm Systems Installers

Construction Careers

Table of Contents *(scroll or use links below to navigate document)*

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What They Do

Security and Fire Alarm Systems Installers install, maintain, and repair electrical systems that signal a private central office of fire or burglary on a subscriber's premises, automatically dial 911 if a break-in or fire is detected, or ring an on-site alarm. Installers set up wired and wireless alarm systems, conduits, electronic sensors, and signaling units in residential and commercial establishments, following blueprints of electrical layouts and building plans. Installers also install closed circuit TV, surveillance, and intercom systems.

Tasks

- ▶ Consult with clients to assess risks and to determine security requirements.

- ▶ Inspect installation sites and study work orders, building plans, and installation manuals in order to determine materials requirements and installation procedures.

- ▶ Install, maintain, or repair security systems, alarm devices, and related equipment, following blueprints of electrical layouts and building plans.

- ▶ Drill holes for wiring in wall studs, joists, ceilings, and floors.

- ▶ Feed cables through access holes, roof spaces, and cavity walls to reach fixture outlets; then position and terminate cables, wires and strapping.

- ▶ Mount and fasten control panels, door and window contacts, sensors, and video cameras, and attach electrical and telephone wiring in order to connect components.

- ▶ Mount raceways and conduits, and fasten wires to wood framing, using staplers.

- ▶ Test and repair circuits and sensors, following wiring and system specifications.

- ▶ Adjust sensitivity of units based on room structures and manufacturers' recommendations, using programming keypads.

- ▶ Examine systems to locate problems such as loose connections or broken insulation.

*Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important Skills, Knowledge, and Abilities

- ▶ Repairing — Repairing machines or systems using the needed tools.

- ▶ Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

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Security and Fire Alarm Systems Installers

▶ Installation — Installing equipment, machines, wiring, or programs to meet specifications.

▶ Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.

▶ Troubleshooting — Determining causes of operating errors and deciding what to do about it.

▶ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

▶ Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

▶ Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

▶ Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

▶ Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

▶ Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.

▶ Near Vision — The ability to see details at close range (within a few feet of the observer).

Work Environment

The work is done both indoors and outdoors. Security and Fire Alarm Systems Installers often work on high ladders. At times, they must crawl into and work in small confined areas. Various hand tools, power tools, and soldering irons are used during the course of their work. They also use electrical testing devices such as ohmmeters or voltmeters. Some workers employed by larger firms are covered by union contracts with the International Brotherhood of Electrical Workers.

Those who do construction-related work may work on a contract basis and are subject to seasonal fluctuations in jobs, but all-around technicians, who do both installation and repair, generally work a 40-hour week, Monday through Friday. In addition to this, they are often on standby for emergency repair work one or more nights each week and perhaps one weekend every four to six weeks.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
Security and Fire Alarm Systems Installers				
49-2098	4,900	6,400	240	$14.16 to $22.29

Wages do not reflect self-employment.
Average annual openings *include new jobs plus net replacements.*
Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

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Trends

This occupation will have a growth rate of more than 30 percent during the 2004–2014 projection period. This growth will be fueled in large measure by the demand for new housing in California as many cities have mandated that new housing contain fire alarm systems. Some installation companies are doing this work for entire subdivisions. There has also been increasing concern for security in many communities.

Training/Requirements/Apprenticeships

Job applicants with a with knowledge of electrical principles or experience in any of the construction trades have a hiring advantage. A few companies provide on-the-job training through videos and technical manuals, while some offer manufacturer training programs.

Installers cannot be hired with a prior felony conviction. All workers must be registered with the State of California Bureau of Security and Investigative Services. Employers will help with the 90-day registration process that includes application, fingerprinting, and renewal fees. Some firms also require that workers be bondable. A valid California driver's license and good driving record are needed.

Recommended High School Course Work
High school or technical school courses in mathematics, basic electricity, and electronics are important.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following construction industry names to get a list of private firms and their addresses:

▶ Armored Car Services

▶ Investigation Services

▶ Locksmiths

▶ Security Guards and Patrol Services

▶ Security Systems Services

For local listings of contractors, search these **yellow page** headings for listings of private firms:

▶ Burglar Alarm Systems

▶ Fire Alarm Systems

▶ Fire Alarm Systems & Equipment-Testing

▶ Intercoms-Systems & Services

▶ Security Control Equipment & Systems

▶ Television Systems-Closed Circuit

Where Can The Job Lead?

Experienced Security and Fire Alarm Systems Installers can become installation supervisors. Positions in upper management are usually not available without a college degree.

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Other Sources of Information

National Burglar and Fire Alarm Association
www.alarm.org

California Department of Consumer Affairs, Bureau of Security and Investigative Services
www.dca.ca.gov/bsis

International Brotherhood of Electrical Workers
www.ibew.org

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